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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/043,647	01/10/2002	Ashok Gadgil	WATERHE.016A	6043

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EXAMINER

KALIVODA, CHRISTOPHER M

ART UNIT PAPER NUMBER

2881

DATE MAILED: 05/08/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/043,647

Applicant(s)

GADGIL ET AL.

Examiner

Christopher M. Kalivoda

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 May 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 6 and 7.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Specification

The disclosure is objected to because of the following informalities: The specification refers the top/upper reflector using reference sign "SI" in paragraph 0008, line 3 but also refers to the same reflector using reference sign "51" in paragraph 13, line 2. Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 8, and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Gadgil, et al. U.S. Patent 5,780,860. Regarding claim 1, Gadgil, et al. teach an ultraviolet water disinfecter comprising:

- a. a feed water delivery system (see column 19, lines 1-15);
- b. an inlet chamber housing at least a portion of the feed water delivery system (see column 19, line 16-17 and figure 1, ref signs 21 and 31);
- c. a baffle wall downstream of the feed water delivery system, the baffle wall having a plurality of spaced perforations (see column 19, lines 19-21 and column 22, lines 5-9 and figure 1, ref sign 37);

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d. an air suspended UV lamp (see column 21, lines 14-19 and figure 1, ref sign 53); and

e. a treatment chamber beneath the UV lamp downstream of the baffle wall, wherein water is driven by gravity at a flow rate of 8 liters per minute or less (see column 12, line 33-34).

Regarding claim 8, Gadgil, et al. teaches the UV system as described in claim 1 above. Since the inventors anticipate a system with a max throughput of 15 L/min, they also anticipate a range of 4 L/min or less (see column 12, line 33-34).

Regarding claim 9, Gadgil, et al. teaches the UV system as described in claim 1 above. Since the inventors anticipate a system with a max throughput of 15 L/min, they also anticipate a range of 1-3 L/min or less (see column 12, line 33-34).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gadgil, et al. U.S. Patent 5,780,860 in view of Kool, et al. U.S. Patent 6,533,930. Regarding claim 2, Gadgil, et al. teaches the limitations of claim 1 as described above.

However, the reference is silent with respect to adapting the feed water delivery system to connect to a household tap.

Kool, et al. teaches the use of water treatment stations for use in the home or office. In addition, water can be either fed directly from a faucet or routed through the station prior to being dispensed from the faucet (see column 1, lines 22-29).

Therefore, it would have been obvious to one skilled in the art at the time the invention was made to modify the invention of Gadgil, et al. to adapt the water delivery system to be able to connect to a household tap as the source of water.

The motivation for such an improvement would be to remove contaminants found in tap water (see column 1, line 10-13).

Claims 3 and 10 –16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gadgil, et al. U.S. Patent 5,780,860. Regarding claim 3, Gadgil, et al. teaches the limitations of claim 1 as described above. In addition, Gadgil, et al. describes the use of an outer shell adapted to collect water that overflows (see column 19, lines 45-55).

However, the reference is silent with respect to a notch in the inlet chamber adapted to allow excess water to overflow.

Gadgil, et al describes the use of notches (evacuation cutouts) on walls for water overflow (see column 12, line 34-39).

Therefore, it would have been obvious to one skilled in the art at the time the invention was made to modify the inlet chamber to include notches adapted to allow excess water to overflow.

The motivation for such an improvement would be to prevent excess water from flooding the internal workings (see column 12, lines 39-42).

Regarding claim 10, Gadgil, et al. teaches the limitations of claim 1 as described above.

However, the reference is silent with respect to the disinfectant having a length of about 48 cm or less, a width of about 19.5 cm or less, and a height of about 15.75 cm or less.

It is well known in the art to scale the size of components (See MPEP 2144.04; In re Rinehart, 531 F.2d 1048, 189 USPQ 143 (CCPA 1976)).

Therefore, it would have been obvious to one skilled in the art at the time the invention was made to scale the disinfecter to a smaller size.

The motivation for making the disinfecter smaller or larger would be to be able to install the system in various locations and have the flexibility to accommodate different sizes.

Regarding claim 11, Gadgil, et al. teaches the limitations of claim 1 as described above.

However, the reference is silent with respect to the disinfecter having a length of about 40 cm or less, a width of about 16.5 cm or less, and a height of about 13.125 cm or less.

It is well known in the art to scale the size of components (See MPEP 2144.04; In re Rinehart, 531 F.2d 1048, 189 USPQ 143 (CCPA 1976)).

Therefore, it would have been obvious to one skilled in the art at the time the invention was made to scale the disinfecter to a smaller size.

The motivation for making the disinfectant smaller or larger would be to be able to install the system in various locations and have the flexibility to accommodate different sizes.

Regarding claim 12, Gadgil, et al. teaches the limitations of claim 1 as described above.

However, the reference is silent with respect to the disinfectant having a length within a range of about 35.2 – 28.8 cm, a width within a range of about 14.3 – 11.7 cm, and a height within a range of about 11.55 – 9.45 cm.

It is well known in the art to scale the size of components (See MPEP 2144.04; In re Rinehart, 531 F.2d 1048, 189 USPQ 143 (CCPA 1976)).

Therefore, it would have been obvious to one skilled in the art at the time the invention was made to scale the disinfectant to a smaller size.

The motivation for making the disinfectant smaller or larger would be to be able to install the system in various locations and have the flexibility to accommodate different sizes.

Regarding claim 13, Gadgil, et al. teach an ultraviolet water disinfecter comprising:

- a. a feed water delivery system (see column 19, lines 1-15);
- b. an inlet chamber housing at least a portion of the feed water delivery system (see column 19, line 16-17 and figure 1, ref signs 21 and 31);
- c. a baffle wall downstream of the feed water delivery system, the baffle wall having a plurality of spaced perforations (see column 19, lines 19-21 and column 22, lines 5-9 and figure 1, ref sign 37);
- d. a treatment chamber beneath the UV lamp downstream of the baffle wall, wherein water is driven by gravity at a flow rate of 8 liters per minute or less (see column 12, line 33-34).

However, the reference is silent with respect to the specific use of a UV lamp using 20 Watts of input power or less.

Gadgil, et al. indicates that very low energy lamps can be used (see column 3, lines 45-48). It is well known in the art to optimize within prior art conditions or perform routine experimentation (See MPEP 2144.04; In re Aller, 220 F.2d 454, 105 USPQ 233,235).

Therefore, it would have been obvious to one skilled in the art at the time the invention was made to use a UV lamp that uses less than about 20 Watts of input power.

The motivation for using low power UV lamps would be reduce operating costs and increase bulb longevity.

Regarding claim 14, Gadgil, et al. teaches the UV system as described in claim 13 above. Since the inventors anticipate a system with a max throughput of 15 L/min, they also anticipate a rate of 8 L/min or less (see column 12, line 33-34).

Regarding claim 15, Gadgil, et al. teaches the UV system as described in claim 13 above. In addition, the inventors describe the use of a low-pressure mercury lamp (see column 24, line 58-61).

Regarding claim 16, Gadgil, et al. teaches the UV system as described in claim 13 above. However, the reference is silent with respect to the disinfectant having a length of about 40 cm or less, a width of about 16.25 cm or less, and a height of about 13.125 cm or less.

It is well known in the art to scale the size of components (See MPEP 2144.04; In re Rinehart, 531 F.2d 1048, 189 USPQ 143 (CCPA 1976)).

Therefore, it would have been obvious to one skilled in the art at the time the invention was made to scale the disinfecter to a smaller size.

The motivation for making the disinfecter smaller or larger would be to be able to install the system in various locations and have the flexibility to accommodate different sizes.

Claims 4 - 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gadgil, et al. U.S. Patent 5,780,860 in view of Cryptosporidium Inactivation By Low Pressure UV In a Water Disinfection Device by Drescher, Greene, and Gadgil (referred to as Drescher, et al.). Regarding claim 4, Gadgil, et al. teaches the limitations of claim 1 as described above.

However, the reference is silent with respect to narrowband UV radiation.

Drescher, et al. teaches the use of narrowband UV in a water purification system (see page 1 abstract).

Therefore, it would have been obvious to one skilled in the art at the time the invention was made to incorporate the use of narrowband UV radiation in the invention of Gadgil, et al.

The motivation for the use of narrowband UV radiation would be to treat the water possibly containing *Cryptosporidium parvum* as well as most bacteria and viruses (see page 8, second paragraph).

Regarding claim 5, Gadgil, et al. in view of Drescher, et al. teaches the limitations of claim 4 above.

However, the references are silent with respect to specific lamp power used.

Gadgil, et al. indicates that very low energy lamps can be used (see column 3, lines 45-48). It is well known in the art to optimize within prior art conditions or perform routine experimentation (See MPEP 2144.04; *In re Aller*, 220 F.2d 454, 105 USPQ 233,235).

Therefore, it would have been obvious to one skilled in the art at the time the invention was made to use a UV lamp that uses less than about 25 Watts of input power.

The motivation for using low power UV lamps would be reduce operating costs and increase bulb longevity.

Regarding claim 6, Gadgil, et al. in view of Drescher, et al. teaches the limitations of claim 5 above.

However, the references are silent with respect to specific lamp power used.

Gadgil, et al. indicates that very low energy lamps can be used (see column 3, lines 45-48). It is well known in the art to optimize within prior art conditions or perform routine experimentation (See MPEP 2144.04; In re Aller, 220 F.2d 454, 105 USPQ 233,235).

Therefore, it would have been obvious to one skilled in the art at the time the invention was made to use a UV lamp that uses less than about 20 Watts of input power.

The motivation for using low power UV lamps would be reduce operating costs and increase bulb longevity.

Regarding claim 7, Gadgil, et al. in view of Drescher, et al. teaches the limitations of claim 6 above.

However, the references are silent with respect to specific lamp power used.

Gadgil, et al. indicates that very low energy lamps can be used (see column 3, lines 45-48). It is well known in the art to optimize within prior art conditions or perform routine experimentation (See MPEP 2144.04; In re Aller, 220 F.2d 454, 105 USPQ 233,235).

Therefore, it would have been obvious to one skilled in the art at the time the invention was made to use a UV lamp that uses about 8-15 Watts of input power.

The motivation for using low power UV lamps would be reduce operating costs and increase bulb longevity.

Conclusion

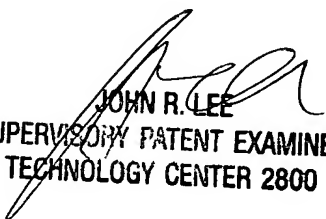
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher M. Kalivoda whose telephone number is (703)-305-7443. The examiner can normally be reached on Monday - Friday (8:30 - 5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John R. Lee can be reached on (703)-308-4116. The fax phone numbers for the organization where this application or proceeding is assigned are (703)-872-9318 for regular communications and (703)-872-9319 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)-308-0956.

cmk
May 2, 2003


JOHN R. LEE
SUPERVISORY PATENT EXAMINER
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